Key Drivers of the Economic Burden of Community-Associated Methicillin-Resistant Staphylococcus aureus in Australia

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Background: Estimates of the economic cost of community-associated Methicillin-resistant Staphylococcus aureus(CA-MRSA) in the United States (US) are substantial, ranging from $1.4-13.8 billion. In Australia, it has been shown that rates of CA-MRSA are increasing, and individual studies have looked at the morbidity and mortality associated with CA-MRSA, however, it is not clear what is driving the economic burden of CA-MRSA at a national level. This study presents preliminary findings about the key drivers of the economic cost of CA-MRSA infections in Australia.

Methods: We used an economic simulation model to estimate the cost of three types of CA-MRSA infection; skin and soft tissue infection, pneumonia and bacteraemia; from a societal perspective and the perspective of the public healthcare system. The structure of the model was based on an existing decision model of the economic consequences of infection previously used to derive cost estimates for the US population. Data to parameterise the new model were taken from a review of the Australian scientific literature, with estimates from the US used only where no local data was available. The prevalence of CA-MRSA was based on the 2012 Australian Group on Antimicrobial Resistance community-onset period-prevalence survey of clinical Staphylococcus aureus.

Results: Initial findings show that rates of mortality and hospitalisation are key drivers of total costs of infection implying that the majority of costs accrue due to severe infections. The societal cost of CA-MRSA is substantially higher than the cost to the public health system; the main contributor is productivity losses amongst adults due to early mortality.

Conclusion: This research suggests that CA-MRSA represents a substantial burden to the Australian economy. Better knowledge of what drives the cost of CA-MRSA at a national level in Australia will help healthcare decision makers determine where efforts at prevention and treatment of these infections should be directed.